


**Figure S1. g:GOST multiquery diagram of pathways with differential response to diet.** GO:GOST multiquery diagram summarizes results from RNA-seq. The Gene ontology molecular function data source (GO:MF) was used to identify pathways based on molecular function in the myocardial response to diet. The term name column shows the individual molecular functions; Term ID;  $p_{adj}$  ( $<0.05$ ) –adjusted p-value for the association of the pathways with the differential response to diet. Selected pathways in the diagram are those with the highest significance ( $p_{adj} < 1e^{-3}$ ) in the corresponding data source. The bar diagrams on right show the negative logarithm of the  $p_{adj}$  value. The  $-\log_{10}(p_{adj})$  axis is shown at the top of the bar diagrams and signifies the molecular functions with the strongest associations have smallest  $p_{adj}$  values and their negative logs are the greatest-bar color from dark green to yellow ( $16 - \log_{10}(p_{adj})$ ). Some glucose-related molecular functions are highlighted in blue.

GO:MF		stats			
<input type="checkbox"/> Term name	Term ID		$p_{adj}$	$-\log_{10}(p_{adj})$	$\leq 16$
<input type="checkbox"/> 3',5'-cyclic-AMP phosphodiesterase activity	GO:0004115		$3.908 \times 10^{-6}$		
<input checked="" type="checkbox"/> glucose binding	GO:0005536		$7.240 \times 10^{-6}$		
<input type="checkbox"/> 3',5'-cyclic-nucleotide phosphodiesterase activity	GO:0004114		$1.894 \times 10^{-5}$		
<input type="checkbox"/> cyclic-nucleotide phosphodiesterase activity	GO:0004112		$2.589 \times 10^{-5}$		
<input type="checkbox"/> small molecule binding	GO:0036094		$6.183 \times 10^{-5}$		
<input type="checkbox"/> SHG alpha-glucan phosphorylase activity	GO:0102499		$2.494 \times 10^{-4}$		
<input checked="" type="checkbox"/> glycogen phosphorylase activity	GO:0008184		$2.494 \times 10^{-4}$		
<input type="checkbox"/> linear malto-oligosaccharide phosphorylase activity	GO:0102250		$2.494 \times 10^{-4}$		
<input type="checkbox"/> nucleotide binding	GO:0000166		$4.476 \times 10^{-4}$		
<input type="checkbox"/> nucleoside phosphate binding	GO:1901265		$4.502 \times 10^{-4}$		
<input type="checkbox"/> 1,4-alpha-oligoglucan phosphorylase activity	GO:0004645		$8.310 \times 10^{-4}$		
<input type="checkbox"/> succinate-CoA ligase (GDP-forming) activity	GO:0004776		$8.593 \times 10^{-4}$		
<input type="checkbox"/> cAMP binding	GO:0030552		$1.399 \times 10^{-3}$		
<input type="checkbox"/> monosaccharide binding	GO:0048029		$2.099 \times 10^{-3}$		
<input type="checkbox"/> succinate-CoA ligase activity	GO:0004774		$2.576 \times 10^{-3}$		
<input type="checkbox"/> phosphoric diester hydrolase activity	GO:0008081		$3.038 \times 10^{-3}$		
<input checked="" type="checkbox"/> carbohydrate derivative binding	GO:0097367		$5.113 \times 10^{-3}$		
<input type="checkbox"/> acid-thiol ligase activity	GO:0016878		$5.946 \times 10^{-3}$		
<input type="checkbox"/> cyclic nucleotide binding	GO:0030551		$6.061 \times 10^{-3}$		
<input type="checkbox"/> prostaglandin E receptor activity	GO:0004957		$9.728 \times 10^{-3}$		